Name _____ Date _____ Class _____

Sedimentary Rocks

Understanding Main Ideas

The flowchart below shows a sequence of processes that form sedimentary rock. Put the processes into the correct sequence by writing their letters in the correct order in the blank.

a. Compaction ➡ **b.** Erosion ➡ **c.** Cementation ➡ **d.** Deposition

1. _____

Classify each of the following sedimentary rocks by writing Clastic, Organic, or Chemical in the blank beside it.

_____ **2.** Sandstone

_____ **3.** Limestone made from shells

_____ **4.** Conglomerate

_____ **5.** Limestone made from precipitated calcite

_____ **6.** Coal

_____ **7.** Breccia

_____ **8.** Rock salt

_____ **9.** Shale

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition on the line beside the term.

____ **10.** erosion

____ **11.** clastic rock

____ **12.** sediment

____ **13.** cementation

____ **14.** organic rock

____ **15.** compaction

____ **16.** chemical rock

____ **17.** deposition

a. small, solid pieces of material from rocks or living things

b. the process that presses sediments together

c. sedimentary rock that forms from remains of plants and animals

d. the process in which running water, wind, or ice loosen and carry away rock fragments

e. the process in which dissolved minerals crystallize and glue sediments together

f. sedimentary rock that forms when rock fragments are squeezed together

g. the process by which sediment settles out of wind or water

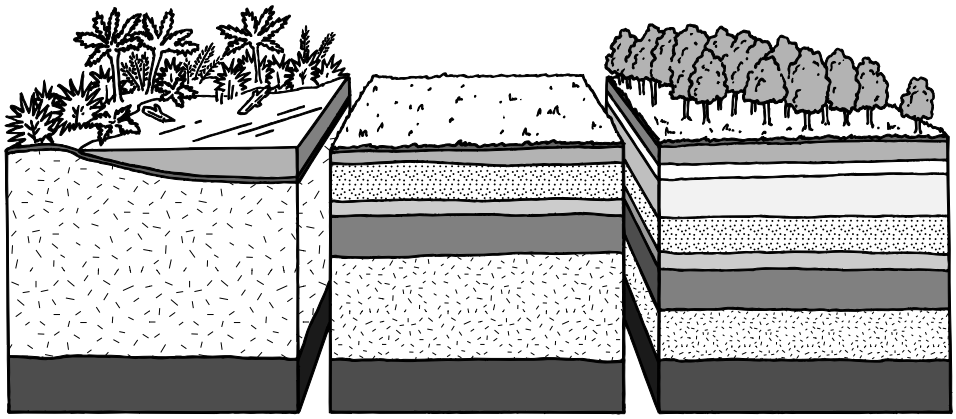
h. sedimentary rock that forms when minerals dissolved in a solution crystallize

Name _____ Date _____ Class _____

The Formation of Coal

Coal is an organic sedimentary rock. One of its properties is that it burns. Coal provides energy for industries and for the production of electricity.

Much of the country's best coal is found in Pennsylvania, Ohio, West Virginia, Kentucky, Tennessee, and Alabama. The formation of this large coalfield began about 300 million years ago during a time geologists call the Carboniferous Period. During that period, vast tropical swamp forests covered much of North America. When these ancient trees died, they fell into the swamp water, which was low in oxygen. Instead of rotting—as they would in an oxygen-rich environment—the dead vegetation piled up. The sequence of pictures below tells the rest of the story of how this plant matter became coal.



Dead plant matter built up on the bottom of a vast swamp during the Carboniferous Period.

Layers of sediment were deposited. The weight of the sediment compacted the plant matter into a substance called peat.

More and more sediment was deposited on top of the peat. Over millions of years, the weight of overlying sediment compressed the peat into coal.

Answer the following questions on a separate sheet of paper.

1. What is coal?
2. When did the coal deposits of the eastern United States begin to form? What were environmental conditions like at that time?
3. What is peat?
4. What process caused the peat to become coal?
5. A type of coal called anthracite is classified by geologists as a metamorphic rock. It is much harder than sedimentary coal. Describe how you think anthracite forms.